

August 26, 1946.

Dear Dr. Sonneborn,

Thank you for your reprints and for the literature references you sent earlier. They have been, need I say, most interesting.

Numarous other recombination types have been found in E coli, corroborating the account given at Cold Spring Harbour, and supporting quite conclusively, I think, the hypothesis of a 'sexual' phase. The recombination types are by no means equally prevalent in mixed cultures, suggesting that there may be some linkages. Resistance to T1, thiaminless, and in other crosses, threonineless have, however, segregated sufficiently clearly and independently that there must be a genic basis to these characters (and the others as well undoubtedly).

We are continuing the E. coli work, but are studying other bacteria now as well, having just begun, in particular with Salmonella. In a discussion with Kimball, the analogy of phase variation to the self-differentiation of mating types in P. bursaria was pointed out. Do you know whether anything has been done since 1942 on that problem? What do you think about it? Finally, has any attempt been made to differentiate mating types on a serological basis?

Very sincerely yours,

Joshua.